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IN QUEST OF SIGNS OF CIVILIZATION IN OTHER WORLDS []

by

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IN DEFENSE OF SCIENTIFIC TRUTH
ON SEARCHES FOR TRACES OF CIVILIZATION
IN OTHER WORLDS

M. A. Voronin

Where and How to Search

The existence of intelligent life on other planets is presumed by us with a high degree of certainty because it is impossible to imagine that in the entire universe it developed only on our earth. F. Engels wrote, "Matter develops into intellectual beings because of its very nature and this necessarily happens in all those cases when appropriate conditions are present (conditions not necessarily identical everywhere and always)." (Ref. 1.)

It would be extremely interesting to actually discover the existence of any civilizations on other planets. Neither Mars nor Venus presents many chances in this respect. However, there is no basis to completely reject the existence of life of a lower level than that on earth on these planets. But the search for intelligent life in the universe is more reasonable on planets of other solar systems.

At the present time it is the order of the day for man to reach the moon and other planets of the solar system. Modern radio engineering makes it possible for us to receive radio waves from great astronomical distances. Many other facts indicate that we are on the verge of an era when by one method or another communications will be established with intelligent inhabitants and civilizations of other worlds. We qualify here that by intelligent inhabitants of other worlds, we mean creatures with whom mutual understanding can be reached. It can be assumed that worlds with such intelligent inhabitants do exist. Earth's intelligent inhabitant "man" cannot be the only type in the universe since he is probably not the sole creature.

Communications with civilizations of other worlds can be active. In all probability, in the distant future this communication will be direct, while in the near future it will be in the form of correlation through the use of electromagnetic waves of various length. These communications can also be passive: we may either establish the signs of life at a distance - for example, plant life on Mars or some other phenomena; or, the reception of radio waves from another world will convince us that they are the manifestation of intelligent life on a planet far away from us. Finally, proof of the existence of intelligent life in the universe would be obtained if we were to find on earth or on other planets, which in all probability will be visited by man in the near future, traces of visits in the distant past by inhabitants of other worlds. This was mentioned on the pages of the magazine, "Herald of

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Knowledge," as far back as 1930 by K. E. Tsilkovskiy, N. A. Rynin and Ya. I. Perelman (Ref. 2). At the present time, too, similar statements are made by various scientists and writers.

It is quite obvious that if intelligent beings of any planet have perfected interplanetary flights and are capable of realizing long distance radio communication they have a high level of civilization. Since we can assume that the earth is not the only planet inhabited by intelligent beings and since, in all probability, there are many planets in other solar systems which have comparable physical conditions, there must be, in any case, sufficient civilization to have solved these problems.

Therefore, it is highly improbable that the earth or some planets of the solar system were never visited by anyone in the past (perhaps a very distant past); or, that there are no artificial radio waves in the interplanetary space produced by some type of devices, including television devices, existing in worlds inhabited by intelligent beings. Therefore, it is necessary to seek more extensively the real signs of life, and, particularly, of intelligent life in our galaxy. /79

In the past and sometimes at the present time the explanation of incomprehensible phenomena observed on other planets based on the theory that they are results of the activity of some intelligent beings meets opposition. Such an approach is not considered scientific. For example, in the opinion of a well-known Swedish physicist, Arrhenius, and of many others, science must be concerned only with the natural action of the forces of nature and exclude the possibility of interference by individual will. The well-known scientist, astronomer, professor - A. A. Michaeloff - in his book, "Life on Mars," wrote the following on this matter: "However, from this point of view, how would Arrhenius explain such phenomena as the Eiffel tower or any railroad? They did not just obey natural laws and grow from the ground like trees. If Arrhenius says that these phenomena are small, having no effect on the physical life of the entire planet and that they cannot be compared with what we observe on Mars, another example can be cited. There is no doubt that the destruction of forests by man produced a profound effect not only on the external form of a large region of the earth, but also on the water state of these regions changing the character of the region, climate, conditions and even forms of life." (Ref. 3.) We should also like to ask whether the creation of new seas by man such as the Rybinskiy reservoir does not change the face of the earth? The activity of intelligent beings is a fact of nature and sooner or later it must be told on a cosmic scale.

However, from the point of view of science, it would be strange to explain, for example, the formation of a new star by the activity of highly developed beings of some world which has gone far along the path

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of evolution. It would be no less strange to propose that the explosion of the star is produced in the interests of this world and for the needs of its national economy. There is, of course, absolutely no basis for this. It is not valid to explain without discrimination all incomprehensible phenomena as a result of the activity of intelligent beings in other worlds. However, this does not mean that we should completely reject the search for phenomena which could really be attributed to these beings. Such facts must be collected remaining subject to critical analysis.

If strictly proven traces of visits to the earth by intelligent beings from other worlds, supposedly in the distant past, are found, this will confirm the real existence of other extra-terrestrial civilizations. This in itself is very important since it will give an experimental basis to the highly probable proposition of the existence of intelligent life in the universe. On the other hand, traces of past visits are of unique interest to historians and archeologists. If a depository, archives, etc., are found containing various materials resulting from the cultural activity of aliens and left, so to speak, as a legacy to the future generations of the inhabitants of the earth the discovery would, of course, have the greatest significance.

The Inventions of Fantasts

The prospects which opened up after the flight of the first Soviet artificial satellite of the earth gave a very strong impetus to the growth of science-fiction literature. Along with fiction on this subject some of our magazines and newspapers willingly publish various statements stating that in the past the earth was visited by astronauts from other planets of the galaxy. In an effort to find proof, under any circumstances, for such a visit (proof which is as yet non-existent) various phenomena are cited which are of direct terrestrial origin and which present no enigma to the specialists.

In this respect the historic treatment of certain exhibits of the State Museum is very characteristic. Among its collections is a group of ancient Italian gems including Etruscan cut stones with images of various objects, people, individual scenes of the antique world, etc. The Etruscans who left these works of art inhabited Italy and occupied the territory along the shores of the Tyrrhenian Sea from the river Tiber to the river Arno, i.e., between the modern cities of Rome on the south, and Pisa and Florence on the north. And here in the figures cut on ancient Italian gems the fantasts have discerned the images of "creatures in cosmic helmets," and a "cosmic rocket," and have imagined that in the far past astronauts visited the land of the Etruscans and were represented on the gems by precious stone cutters.

It should be pointed out that those who invented all this completely ignored the historic and orderly development of the style of these gems and the technology of their fabrication. The gems, for some reason, are persistently called stones although it is known that this is the term applied to embossed images. In the gems under consideration the images are cut deep. Such gems are called Intaglio and are similar to our seals. The Intaglio gems were widespread among the peoples of the ancient world.

Various cutters were used for the preparation of the gems. For example, a flat disc with sharpened edges attached to a rotating rod was used to inscribe thin and straight lines on the stone. A hemispherical tip attached to a rotating rod from the concave side was used to cut deep holes in the stone. This cutter was called the globulo (from the Latin for sphere - globus). There were also cutters of other types.

The style of Italian gems was influenced to a great degree by Greek gems. However, the Etruscan masters, with time, gradually developed their own characteristic style which is called "globulo" after the cutter widely used in making gems of this style. With this cutter hemispheric depressions were made on the stone and the image frequently consisted of series of unconnected circles of different sizes. This style followed the realistic one and became original, completely free of the influence of the Greek pattern. Gems of this style are attributed by historians to the end of the IV - III centuries B.C.

The globulo style resulted in very simple, unrealistic, schematic and obscure images. The head of a man, for example, could be represented only by one round depression, as can be clearly observed on gems of this style. Fine details completely disappeared. The figure began to resemble "a diver with a diving helmet" since it was produced by a few interconnected holes.

Figure 1 shows an ancient Greek gem of the VI century B.C. This gem represents Hercules running. The image is treated quite realistically. Figure 2 shows a warrior in the same pose from an Etruscan gem of the IV century B.C. Here the image is already schematic. Finally, Figure 3 represents also an Etruscan gem of the late IV century B.C. showing the same subject made in the globulo style. It is this image which was taken for an astronaut in a space helmet. These three figures clearly show the gradual transition from one manner of representation to another. Under the influence of styling the image of a vessel also assumed the schematic and rather abstract nature. If a series of such images is compared (Fig. 4-7) it is easy to see how the same subject was simplified and styled.

Figure 4 shows the image of a galley on a gem in realistic style, created under the strong influence of Greek art. Here we can see all

the basic details of the galley. Its bow has an image of the head of a fantastic sea horse turned towards the ship which was customary in those times. The stern, in turn, is decorated by a stylized tail of the same animal. The image of the sea horse was transposed, so to speak, to the ship. The mast, sail, rigging, oars are very clearly represented. At the bow of the galley, at the level of the lower deck we can see the spur, usually covered by copper, which was used in an attempt to pierce the enemy's ship during naval battle. The stern also displays a rudder.

In the next galley (Figure 5), whose deck displays military signs in place of a mast, the details of the vessel are represented rather schematically. For example, the head of the horse at the bow is shown in a simplified manner. The decoration of the stern, the tail, is very symbolic.

On Figure 6 the galley is represented under the heavy influence of the globulo style. At the bow the head of the horse is represented by merely a circle. In a similar manner the tail at the stern is represented symbolically by a circle with two lines.

Finally, on Figure 7 the galley is also made under the influence of the globulo style. This gem from the end of the II century or the beginning of the I century B.C. is not Etruscan and in all probability originates in southern Italy. The image on it was taken by the fan- /82
tasts for a cosmic ship "with characteristic rays of reactive explosions." By comparing it with the preceding it is easy to establish that the stern of the ship is located where we have a circle with three lines. This was the schematic designation for the tail of a sea horse. Thus it turns out that the "reactive explosion" interpreted in this image is directed forward! It is also improbable that the symbolic notation showing the flow of gases from a reaction engine adopted at the present time in engineering was known in ancient times.

In the figures presented it is clear how the representation by artists of the same object - the galley - changed. We note that in the last image of the galley the oars are left out.

The recognition of "cosmic ships" and "astronauts" in the images on the gems could only be made by those who did not know the history of the development of antique gems, did not bother to learn it and heedlessly sought cheap sensation and, consequently, lead people unfamiliar with these questions into delusion. This sensation is picked up by others also unfamiliar with the subject and it begins to travel over the world producing more harm than good. From the magazine "Smena" (Ref. 5) it has even moved its camp to Australia (Ref. 6).

We note that if a visit to the earth by astronauts from other worlds did take place in this case, or earlier, it could not have been

left unobserved by other people. However, no corresponding evidence among the historic monuments of those times has been found.

Exposed Sensations

The French magazine "Science et Vie" in 1960 (Ref. 7) contained an article by Ketman which expressed the thought that certain ancient round castle towers in Scotland and Ireland are enigmatic. The fact is that the walls of these towers are fused on the surface at a very high temperature. The magazine, "Yunyy Tekhnik" (Ref. 8) republished this communication in the same year. "Maybe the granite was fused by lighting?" asked the author of the article having related the communication of Ketman. No, scientists say, "This possibility is excluded." Involuntarily, the question arises: How then did this happen? Is it possible that it was caused by an atomic explosion which could have been produced only by astronauts from other worlds?

In the magazine "Priroda" (Ref. 9) on the question of this alleged "riddle" of Ketman the following statement was made in the article, "Legends on Visitors from the Cosmos." "In an article by Ketman there are references made to a series of 'evidences' showing that our planet was visited by visitors from the cosmos: the puzzling round towers in Ireland and Scotland.....Ketman is not an archeologist; he could not know that round towers were constructed during the feudal era."

And so what are these structures? Are they traces left by astronauts or are they the results of human activity?

Historians assume that the inhabitants of Scotland and Ireland were a relatively cultured people possessing interesting methods for building homes and fortification as far back as the V century B.C. In Scotland there are remnants of huge forts situated on high hills. These massive structures are evidence of the constructional and organizational capabilities of the local population. There are several types of such structures: dwellings were simply surrounded by earth embankments, or the embankments were made of stones, or, what is of most interest to us, the stone embankments were subjected to special firing on the surface. This last type of construction has been given the name of "vitrescent type". The method of vitrification follows: the stonework was made without a binder but after construction the structure - tower - was fired by burning peat at its walls. As a result of the firing the stones at the surface were fused together. This produced a strong binding of the stonework and made it waterproof. The practice of vitrification existed in Scotland as far back as the Roman days.

In Scotland sixty structures of this type are known. The more ancient forts were not towers in the complete sense of the word, but

even in Roman times cylindrical towers, called brochs, appeared, having a wall thickness of 3.5 - 5.5 meters and a height of 14 - 18 meters.

Thus, the non-scientific and irresponsible article by Ketman has confused all those who are interested in the problem of life in the universe but are unfamiliar with the history of architecture. The sensational communication on the alleged enigmatic structures in Scotland and Ireland has demonstrated only the carelessness of the author.

Recently, another sensation has been exposed - the alleged discovery of a steel parallelopiped in the coal strata of the Tertiary period (Ref. 10). It is known that these strata are substantially over a million years old. There were no people on earth at that time. Consequently, if such an artificial object were indeed found, its fabrication could be attributed only to foriegn astronauts.

The published data on this parallelopiped were contradictory and provoked doubt. The dimensions, the material and weight were not compatible. If we consider the dimensions and weight to be correctly stated, the parallelopiped could not have been made of iron or steel, since the specific weight of the material turned out to be 3.75 grams/cm². The data on its dimensions, material and weight could only be reconciled under the condition that the object was hollow inside!

It turned out that the communication on this find was false and confusing to the readers. In the museum at Salzburg (Austria) where, it was stated, the parallelopiped was carefully preserved, it was not found and the scientist who allegedly found it did not exist either.

What about the "flying saucers?" From 1947 when the first reports appeared on the visitors from the Cosmos who allegedly flew near the earth in disc-like apparatus, until the complete repudiation of this legend in 1951 (Ref. 11), fifteen years passed. An incredible number of rumors have been circulated in the world on the subject of flying saucers. In Australia and the U.S.A. special journals were founded and devoted to this problem. Books were published on this subject. In short, tons of paper were consumed in writings. Some of the adventurers became such habitual liars that finally Herman Oberth, the well-known German scientist who once wrote a serious investigation on the flight of a rocket into cosmic space, believed them and took part in the uproar which was supported by some circles across the ocean on the question of "flying saucers". The "flying saucers" were first associated with the aggression of the Soviet Union and then with spaceships of cosmonauts flying to the earth from Venus or other planets. All the legends, communications, and photographs of flying saucers turned out to be an error, a lie, mysticism or adulteration.

The examples presented above are sufficient to deduce the necessity of adopting in principle a strict selection of facts, not only to develop some hypothesis, but also for science-fiction novels and stories. In the cozy staterooms of company it is possible to have a good time, but all jokes and trivialities which are presented there to pass leisure time must not be necessarily given publicity. The author of science fiction must not be indifferent in the selection of supporting facts for his novel, story or essay.

Unproven sensations benefit neither science, nor the reader, and only lead to confusion. Carelessness in science fiction, as in science, is unforgivable.

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